We claim:

1. A compound of formula (I),

wherein R¹ and R² may be same or different and independently represent hydrogen, halogen, nitro, cyano, amino, hydroxy or optionally substituted group selected from alkyl, cycloalkyl, alkoxy, cycloalkoxy, aryl, aralkyl, alkylcarbonyl, alkoxycarbonyl, arylcarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heteroarylcarbonyl, aryloxy. aralkoxy. alkylcarbonyloxy, alkoxycarbonylamino, aryloxycarbonylamino, aralkoxycarbonylamino, heteroaryl, heteroaralkyl, heterocyclyl, heteroarylcarbonylamino, heteroaryloxy, fluorenylmethoxycarbonyl (Fmoc), fluorenylmethoxycarbonylamino (N-Fmoc), $-OSO_2R^8$, $-OCONR^8R^9$, NR^8COOR^9 , $-NR^8COR^9$, $-NR^8R^9$, $-NR^8SO_2R^9$. $-NR^8CONR^9R^{10}$, $-NR^8CSNR^8R^9$, $-SO_2R^8$, $-SOR^8$, $-SR^8$, $-SO_2NR^8R^9$, $-SO_2OR^8$, $-CONR^8R^9$, -COOR9 or -COR9, wherein R8, R9 and R10 may be same or different and independently represent hydrogen, optionally substituted group selected from alkyl, aryl, aralkyl, aryloxy or heteroaryl; or R¹ and R² together represent a monocyclic or polycyclic aromatic or non aromatic ring or an aromatic ring fused to a non aromatic ring, which may optionally contain 1 to 3 heteroatoms selected from N, S, or O and may be unsubstituted or have 1 to 4 substituents which may be identical or different.

R³ and R⁴ may be same or different and independently represent hydrogen, halogen, optionally substituted group selected from alkyl, cycloalkyl, alkanoyl, aryl, aroyl, aralkyl or aralkanoyl group. 'n' and 'p' independently represents 0-6.

X represents O, S, NR where R represents hydrogen or optionally substituted groupsselected from alkyl, cycloalkyl, cycloalkylalkyl, aryl, aralkyl, alkanoyl, or aroyl.

Ar represents optionally substituted single or fused aromatic, heteroaromatic or heterocyclic group.

Z represents O, S, NR where R is as defined above.

R⁵, R⁶ and R⁷ may be same or different and independently represent hydrogen, hydroxy, halogen or optionally substituted group selected from alkyl, cycloalkyl, alkoxy, aryl, aralkyl, heteroaryl, heterocyclyl or heteroaralkyl groups. R⁵ and R⁶ together may form a 5

or 6 membered cyclic rings, which may contain one or two hetero atoms selected from O, S or N.

Y represents O or NR¹¹ where R¹¹ represents hydrogen, optionally substituted group selected from alkyl, aryl, aralkyl, alkanoyl, aroyl, aralkanoyl, heterocyclyl or heteroaryl.

R⁷ and R¹¹ together may also form a 5 or 6 membered cyclic ring, which may contain one or two hetero atoms selected from O, S or N.

'----' represents a bond or no bond; their stereoisomers, pharmaceutically acceptable salts thereof as well as pharmaceutical compositions containing them;

When the fused rings formed by R¹ and R² are substituted, the substituents are selected from alkyl, halogen, hydroxy, haloalkyl, nitro, amino, cyano, oxo, or thioxo.

When the groups represented by R¹ and R² are substituted, the substituents are selected from halogen, hydroxy, nitro, amino, oxo, thioxo, optionally substituted groups selected from alkyl, cycloalkyl, alkoxy, aryl, aralkyl, alkylsulfonyl, alkylsulinyl, alkylsulfanyl, alkylsulfonyloxy, alkylsulfinyloxy or alkylsulfanyloxy, the substituents are selected from halogen, hydroxyl, nitro, amino, cyano or alkyl.

When the groups represented by R, R³, R⁴ and R¹¹ are substituted, the substituents are selected from halogen, nitro, amino, hydroxy, alkyl, oxo or aralkyl

When the groups represented by R⁵, R⁶ and R⁷ are substituted, the substitutents are selected from halogen, hydroxy, nitro, alkyl, cycloalkyl, alkoxy, aryl, aralkyl, aralkoxyalkyl, heterocyclyl, heteroaryl or amino.

When the cyclic rings formed by R⁵ and R⁶ are substituted, the substituents are selected from alkyl, halogen, hydroxy, haloalkyl, nitro, amino, cyano, oxo, or thioxo.

The groups defined for R, R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰ and R¹¹ may be unsubstituted, or have 1 to 4 substituents, which may be identical or different.

- 2. The compound of claim 1, wherein the stereoisomer is enantiomer and/or geometrical isomer.
- 3. The compound of claim 1 wherein 'Ar' is optionally substituted groups selected from phenylene, naphthylene, pyridyl, quinolinyl, benzofuryl, dihydrobenzofuryl, benzopyranyl, dihydrobenzopyranyl, indolyl, indolinyl, azaindolyl, azaindolyl, pyrazolyl, benzothiazolyl or benzoxazolyl. The substituents on the group represented by 'Ar 'may be selected from linear or branched optionally halogenated (C₁-C₁₀)alkyl, optionally halogenated (C₁-C₁₀)alkoxy, halogen, acyl, amino, acylamino, thio or carboxylic or sulfonic acids and their derivatives, which may optionally be susbstituted.

- 4. The compound of claim 1 wherein 'Ar' is optionally substituted phenylene, naphthylene, benzofuryl, indolyl, indolinyl, quinolinyl, azaindolyl, azaindolyl, benzothiazolyl or benzoxazolyl groups.
- 5. The compound of claim 1 wherein 'Ar' is phenylene, naphthylene or benzofuryl, which may be unsubstituted or substituted by alkyl, haloalkyl, methoxy or haloalkoxy groups.
- 6. The compound of claim 1 wherein

 R^1 and R^2 are same or different and independently represent hydrogen, halogen, nitro, cyano, amino, hydroxy or optionally substituted groups selected from alkyl, alkoxy, aryl, aralkyl, aralkoxy, heteroaryl, heteroaralkoxy, $-OSO_2R^8$, $-SO_2R^8$ or $-NR^8R^9$;

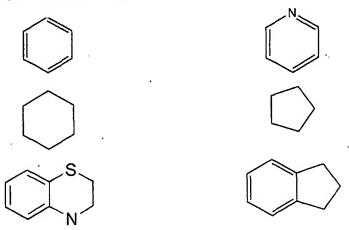
R³ and R⁴ are same or different and independently represent hydrogen, halogen, optionally substituted group selected from alkyl or aralkyl;

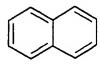
R⁵ and R⁶ are same or different and independently represent hydrogen, hydroxy, optionally substituted alkyl, cycloalkyl, aryl or R⁵ and R⁶ together represent a 5 or 6 membered aromatic or non aromatic cyclic ring system optionally containing 1 or 2 heteroatoms selected from O, S or N;

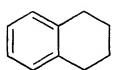
R⁷ and R¹¹ may form a cyclic ring system selected from pyrrolidinyl, piperidinyl, morpholinyl, piperazinyl, oxazolinyl, diazolinyl and the like.

7. The compound of claim 1 wherein

R¹ and R² together represent a optionally susbstituted monocyclic or polycyclic aromatic or non aromatic ring or an aromatic ring fused to a non aromatic ring selected from:







8. The compound of claim 1 wherein:

 R^1 and R^2 are same or different and independently represent hydrogen, halogen, nitro, amino, hydroxy or optionally substituted group selected from alkyl, aryl, aralkyl, aralkoxy, heteroaryl, heteroaralkoxy or $-OSO_2R^8$;

R³ and R⁴ are same or different and independently represent hydrogen or optionally substituted alkyl;

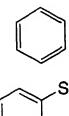
R⁵ and R⁶ are same or different and independently represent hydrogen, optionally substituted alkyl, cycloalkyl, aryl or R⁵ and R⁶ together represent a optionally substituted 5 or 6 membered saturated cyclic ring system

9. The compound of claim 1 wherein:

R¹ and R² together represent a optionally susbstituted monocyclic or polycyclic aromatic or non aromatic ring or an aromatic ring fused to a non aromatic ring selected from:











R³ and R⁴ are same or different and independently represent hydrogen or optionally substituted alkyl;

R⁵ and R⁶ are same or different and independently represent hydrogen, optionally substituted group selected from alkyl, cycloalkyl, aryl or R⁵ and R⁶ together represent a 5 or 6 membered saturated cyclic ring system;

10. The compound of claim 1 wherein

R¹ is selected from -OSO₂CH₃, halogen, alkyl optionally substituted phenyl wherein the substituent is selected from alkyl or halogen

 R^2 , R^3 , R^4 , R^5 , R^6 and R^7 are same or different and independently represent hydrogen, methyl, ethyl or propyl

'Ar' represents optionally substituted phenyl wherein the substituent is alkyl

X, Y and Z independently represent oxygen

n and p independently represent 0 or 1

11. The compound of claim 1, wherein

 R^1 is selected from optionally substituted phenyl wherein the substituent is selected from halogen .

R², R³, R⁴, R⁵, R⁶ and R⁷ are same or different and independently represent hydrogen, methyl, ethyl or propyl

'Ar' represents optionally substituted phenyl wherein the substituent is alkyl

X, Y and Z independently represent oxygen

n and p independently represent 0 or 1

CH₃ .CO₂Et CO₂Et H₃C CH₃ ĊH₃ ĊНз `CH₃

H₃C CH₃ H₃C CH₃ H₃C CH₃ H₃C CH₃

СН₃ CH₃ ĊНз ĊH₃

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$$F_{3}C$$

$$CO_{2}H$$

$$CH_{3}$$

$$CO$$

15. The compound of formula (I) as claimed in claim 1 is selected from:

H₃C

CO₂H

″ CH₃

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H₃C CH₃ H₃C CH₃ ĊH₃

18.

$$\begin{array}{c} O \\ O \\ O \\ O \\ CO_2Et \end{array}$$

$$\begin{array}{c} O \\ O \\ O \\ CH_3 \end{array}$$

$$\begin{array}{c} O \\ O \\ O \\ CO_2Et \\ O \\ CH_3 \end{array}$$

$$\begin{array}{c} O \\ O \\ O \\ CO_2Et \\ O \\ CH_3 \end{array}$$

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21. The compound of formula (I) as claimed in claim 1 is selected from:

$$\begin{array}{c} F \\ CH_3 \\ CH_3$$

23. The compound of formula (I) as claimed in claim 1 is selected from:

24. The compound of formula (I) as claimed in claim 1 is selected from:

25. The compound of formula (I) as claimed in claim 1 is

26. The compound of formula (I) as claimed in claim 1 is

27. The compound of formula (I) as claimed in claim 1 is

28. The compound of formula (I) as claimed in claim 1 is

29. The compound of formula (I) as claimed in claim 1 is

30. The compound of formula (I) as claimed in claim 1 is

31. The compound of formula (I) as claimed in claim 1 is

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CH₃ O CO₂H

32. The compound of formula (I) as claimed in claim 1 is

33. The compound of formula (I) as claimed in claim 1 is

34. The compound of formula (I) as claimed in claim 1 is

35. The compound of formula (I) as claimed in claim 1 is

36. The compound of formula (I) as claimed in claim 1 is

37. A process for the preparation of compound of formula (I)

wherein R and R2 may be same or different and independently represent hydrogen, halogen, nitro, cyano, amino, hydroxy or optionally substituted group selected from alkyl, cycloalkyl, alkoxy, cycloalkoxy, aryl, aralkyl, alkylcarbonyl, alkoxycarbonyl, arylcarbonyl, heteroarylcarbonyl, aryloxy, aralkoxy, aralkoxycarbonyl, aryloxycarbonyl, alkylcarbonyloxy, alkoxycarbonylamino, aryloxycarbonylamino, aralkoxycarbonylamino, heteroarylcarbonylamino, heteroaryl, heteroaralkyl, heterocyclyl, heteroaralkoxy, heteroaryloxy, fluorenylmethoxycarbonyl (Fmoc), fluorenylmethoxycarbonylamino (N-Fmoc), -OSO₂R⁸, -OCONR⁸R⁹, NR⁸COOR⁹, -NR⁸COR⁹, -NR⁸R⁹, -NR⁸SO₂R⁹, $-NR^8CONR^9R^{10}, -NR^8CSNR^8R^9, -SO_2R^8, -SOR^8, -SR^8, -SO_2NR^8R^9, -SO_2OR^8, -CONR^8R^9, -SO_2OR^8, -SO_2OR^8,$ -COOR9 or -COR9, wherein R8, R9 and R10 may be same or different and independently represent hydrogen, optionally substituted group selected from alkyl, aryl, aralkyl, aryloxy or heteroaryl; or R1 and R2 together represent a monocyclic or polycyclic aromatic or non aromatic ring or an aromatic ring fused to a non aromatic ring, which may optionally contain 1 to 3 heteroatoms selected from N, S, or O and may be unsubstituted or have up to 1 to 4 substituents which may be identical or different.

R³ and R⁴ may be same or different and independently represent hydrogen, halogen, optionally substituted group selected from alkyl, cycloalkyl, alkanoyl, aryl, aroyl, aralkyl or aralkanoyl group. 'n' and 'p' independently represents 0-6.

X represents O, S, NR where R represents hydrogen or optionally substituted groupsselected from alkyl, cycloalkyl, cycloalkyl, aryl, aralkyl, alkanoyl, or aroyl.

Ar represents optionally substituted single or fused aromatic, heteroaromatic or heterocyclic group.

Z represents O, S, NR where R is as defined above.

R⁵, R⁶ and R⁷ may be same or different and independently represent hydrogen, hydroxy, halogen or optionally substituted group selected from alkyl, cycloalkyl, alkoxy, aryl, aralkyl, heteroaryl, heterocyclyl or heteroaralkyl groups. R⁵ and R⁶ together may form a 5 or 6 membered cyclic rings, which may contain one or two hetero atoms selected from O, S or N.

Y represents O or NR¹¹ where R¹¹ represents hydrogen, optionally substituted group selected from alkyl, aryl, aralkyl, alkanoyl, aroyl, aralkanoyl, heterocyclyl or heteroaryl.

R⁷ and R¹¹ together may also form a 5 or 6 membered cyclic ring, which may contain one or two hetero atoms selected from O, S or N.

'---' represents a bond or no bond.

When the fused rings formed by R^1 and R^2 are substituted, the substituents are selected from (C_1-C_{10}) alkyl, halogen, hydroxy, halo (C_1-C_{10}) alkyl, nitro, amino, cyano, oxo, or thioxo.

When the groups represented by R^T and R² are substituted, the substituents are selected from halogen, hydroxy, nitro, amino, oxo, thioxo, optionally substituted groups selected from alkyl, cycloalkyl, alkoxy, aryl, aralkyl, alkylsulfonyl, alkylsulinyl, alkylsulfanyl, alkylsulfonyloxy, alkylsulfinyloxy or alkylsulfanyloxy, the substituents are selected from halogen, hydroxyl, nitro, amino, cyano or alkyl.

When the groups represented by R, R³, R⁴, R⁷ and R¹¹ are substituted, the substituents are selected from halogen, nitro, amino, hydroxy, alkyl, oxo or aralkyl

When the groups represented by R⁵, R⁶ and R⁷ are substituted, the substitutents are selected from halogen, hydroxy, nitro, alkyl, cycloalkyl, alkoxy, aryl, aralkyl, aralkoxyalkyl, heterocyclyl, heteroaryl or amino.

When the cyclic rings formed by R⁵ and R⁶ are substituted, the substituents are selected from alkyl, halogen, hydroxy, haloalkyl, nitro, amino, cyano, oxo, or thioxo.

The groups defined for R, R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰ and R¹¹ may be unsubstituted, or have 1 to 4 substituents, which may be identical or different, which comprises the following processes:

Process (a):

(i) Reacting the compound of formula (Ia)

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where 'Hal' represents a halogen atom selected bromine or iodine, R² is hydrogen and R³ is as defined above in this claim in the description of compound of formula (I), in a Witting-Horner reaction manner, by using phosphono acetate compounds selected from triethyl phosphono acetates, trimethylphosphono acetate or Ph₃P⁺-CH₂-CO₂Et in the presence of a base selected from sodium hydride, potassium tertiary butoxide, potassium hydroxide, sodium methoxide or sodium ethoxide. The solvent used in the reaction is selected from alcohol selected from methanol, ethanol, propanol, isopropanol or tetrahydrofuran, ether, dioxane, dimethoxyethane or a mixture thereof at a temperature range of 0 to 10 °C and duration of 10 to 24 h to obtain a compound of formula (Ib)

where 'Hal' represents a halogen atom selected bromine or iodine, R² is hydrogen and R³ and R⁴ are as defined above in this claim in the description of compound of formula (I),

(ii) conversion of the compound of formula (Ib), to a compound of formula (Ic)

$$R^1$$
 R^4
 R^2
 R^3
 R^3
 R^4
(Ic)

where R¹ represent aryl group, R² represents hydrogen atom and R³ and R⁴ are as defined as defined above in this claim in the description of compound of formula (I), in a Suzuki coupling reaction manner, by using aryl boronic acid with palladium catalyst like Pd(PPh₃)₄, PdCl₂, Pd(dba)₂. The solvent used is selected from terahydrofuran, dioxane, acetonitrile, dimethylether, diethylether, dimethylformamide or a mixture thereof at reflux temperature of the solvent used for a period of 15 to 28 h.

Alternatively, the compound of formula (Ic), is prepared from compound of formula (Ia')

where R¹, R² and R³ are as defined above in this claim in the description of compound of formula (I), by using substituted phosphone acetate compounds selected from triethyl phosphone acetates, trimethylphosphone acetate or Ph₃P⁺-CH₂-CO₂Et.

(iii) The reduction of the compound of formula (Ic) to a compound of formula (Id)

where R¹ represent aryl group, R² represents hydrogen atom and R³ and R⁴ are as defined above in this claim in the description of compound of formula (I), is carried out in the presence of a reducing agent selected from diisobutyl aluminium hydride (DIBAL-H), aluminium hydride (AlH₃) or lithium aluminium (LAH). The solvent used in the reaction is selected from toluene, tetrahydrofuran, ether, dioxane, dimethoxyethane or a mixture thereof at a temperature range of -90 to -25 °C, for a duration of 0.5 h to 2 h. The temperature and duration of the reaction can be decreased in the presence of AlH₃.

(iv) coupling of a compound of formula (Id) with a compound of formula (Ie)

where p represents 1, Y represents O or S, R⁵ and R⁶ are as defined above in this claim in the description of compound of formula (I), R⁷ is as defined above in this claim in the description of compound of formula (I) except hydrogen, to obtain compound of formula (I), where p represents 1, Y represents O or S, R⁷ is as defined above in this claim in the description of compound of formula (I) except hydrogen atom and all other symbols are as defined above in this claim in the description of compound of formula (I), by using PPh₃, DIAD or DEAD. The solvent used in the reaction is selected from tetrahydrofuran, toluene, benzene or a mixture thereof at a temperature range of 20 to 40 °C, for duration of 40 to 80 h.

(v) hydrolysis of the compound of general formula (I) where R⁷ represents hydrogen atom, Y represents O or S, p represents 1 and all other symbols are as defined above in this

claim in the description of compound of formula (I), is obtained from a compound of formula (I) where R⁷ represents all groups defined above in this claim in the description of compound of formula (I) except hydrogen, Y represents O or S, p represents 1 and all other symbols are as defined above in this claim in the description of compound of formula (I), in the presence of a base selected from sodium hydroxide, potassium hydroxide, lithium hydroxide, potassium carbonate or sodium carbonate. The solvent used is selected from alcohols selected from methanol, ethanol, propanol, isopropanol or a mixture thereof, water, tetrahydrofuran, dioxane, ether or a mixture thereof at a temperature range of 30 to 80 °C, for duration of 2 to 24 h.

the compound of general formula (I) where Z represents O or S, p represents 1 and (vi) R7 represents hydrogen or alkyl group are converted to compound of formula (I), where Y represents NR11 by reacting with an amine of the formula NHR7R11, where R7 and R11 are as defined above in this claim in the description of compound of formula (I), to yield a compound of formula (I) where Y represents NR11 and all other symbols are as defined above in this claim in the description of compound of formula (I). Alternatively, the compound of formula (I) where YR7 represents OH are converted to acid halide, preferably where YR⁷ = Cl, by reacting with reagents selected from oxalyl chloride or thionyl chloride, followed by treatment with an amine of the formula NHR⁷R¹¹ where R⁷ and R¹¹ are as defined above in this claim in the description of compound of formula (I). Alternatively, mixed anhydrides are obtained from compound of formula (I) where YR7 represents OH and all other symbols are as defined above in this claim in the description of compound of formula (I), by treating with acid halide selected from acetyl chloride, acetyl bromide, pivaloyl chloride or dichlorobenzoyl chloride. The reaction can be carried out in the presence of pyridine, triethylamine or diisopropyl ethylamine. Coupling reagent selected ethylchloroformate, from DCC/DMAP DCC/HOBt, EDCI/HOBT, DIC/HOBt, isobutylchloroformate can be used to activate the acid. The solvent used is selected from halogenated hydrocarbon like CHCl3 or CH2Cl2; hydrocarbon like benzene, toluene, xylene or a mixture thereof at a temperature range of -40 to 40 °C. The acid halide or mixed anhydride or activated acid obtained by coupling reagents described above thus prepared may further be treated with an amine of the formula NHR⁷R¹¹ where R⁷ and R¹¹ are as defined above in this claim in the description of compound of formula (I), to yield a compound of formula (I) where Y represents NR11 and all other symbols are as defined above in this claim in the description of compound of formula (I).

Process (b):

The reaction of compound of formula (IIa)

$$R^{2}$$
 R^{3}
 R^{4}
 R^{3}
 R^{4}
 R^{2}
 R^{4}
 R^{2}
 R^{4}
 R^{2}
 R^{4}
 R^{2}
 R^{4}
 R^{2}
 R^{3}
 R^{4}
 R^{2}
 R^{4}
 R^{3}
 R^{4}
 R^{2}
 R^{4}
 R^{4}
 R^{2}
 R^{4}
 R^{4

where all symbols are as defined above in this claim in the description of compound of formula (I), with a compound of formula (IIb)

$$R^6$$
 COYR 7 (IIb)

where L¹ is a leaving group selected from hydroxy, halogen atom, p-toluenesulfonate, methanesulfonate or trifluoromethanesulfonate, and all other symbols are defined above in this claim in the description of compound of formula (I), is carried out in the presence of a solvent selected from THF, DMF, DMSO, DME, toluene, benzene, xylene or a mixture thereof in the presence of a base selected from K₂CO₃, Na₂CO₃, NaNH₂, n-BuLi, NaH, KH, triethylamine, collidine, lutidine or a mixture thereof optionally in an inert atmosphere of nitrogen, helium or argon at a temperature range of 0 to 120 °C, for a duration of 1 to 72 h. Process (c):

The reaction of compound of formula (IIc)

$$R^{\frac{2}{11}}$$

$$R^{\frac{2}{11}}$$

$$R^{\frac{1}{3}}$$

where L¹ represents a leaving group selected from hydroxy, halogen atom, p-toluenesulfonate, methanesulfonate or trifluoromethanesulfonate, and all other symbols are as defined above in this claim in the description of compound of formula (I), with compound of formula (IId)

$$X-Ar \underset{p}{\longleftrightarrow} Z \underset{R^5 \quad R^6}{\underbrace{\hspace{1cm}}} YR^7$$
(IId)

where all symbols are as defined above in this claim in the description of compound of formula (I), is carried out in the presence of a solvent selected from THF, DMF, DMSO, DME or a mixture thereof optionally in an inert atmosphere of nitrogen, argon or helium in

the presence of a base selected from K_2CO_3 , Na_2CO_3 or NaH, KH, triethyl amine or a mixture thereof at a temperature range of 0 to 120 °C and duration of 1 to 72 h.

OI

Process (d):

The conversion of compound of formula (IIe)

$$\begin{array}{c}
R^{1} \\
R^{2} \\
R^{3}
\end{array}$$
(IIe)

where all symbols are as defined above in this claim in the description of compound of formula (I), to a compound of formula (I), where YR⁷ represents OH and all other symbols are as defined above in this claim in the description of compound of formula (I), is carried out either in the presence of a base or an acid. Selection of base or an acid is not critical. Any base normally used for the hydrolysis of nitrile to an acid can be employed, metal hydroxide selected from NaOH or KOH in an aqueous solvent or any acid normally used for hydrolysis of nitrile to ester can be employed selected from dry HCl in an excess of alcohol like methanol, ethanol, propanol, isopropanol or a mixture thereof at a temperature range 0 °C to 150 °C and duration of 0.25 to 48 h.

Process (e):

(i) The compound of formula (IIIa)

(Ilia)

where 'p' and 'Ar' are as defined above in this claim in the description of compound of formula (I), is converted to a compound of formula (IIIb)

by reacting with TBDMS-Hal, (CH₃)₃Si-Hal or Ph₃C-Hal where 'Hal' represents halogen atom in the presence of a base used selected from triethylamine, Na₂CO₃ or K₂CO₃ and a solvent selected from dichloromethane, tetrahydrofuran, chloroform, dimethylether, diethylether, dioxane, benzene, toluene or a mixture thereof at a temperature range of 0 °C to room temperature and duration of 8 to 20 h.

(ii) The compound of formula (IIIb) is converted to a compound of formula (IIIc)

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by using NaBH4 in the presence of an alcohol selected from methanol, ethanol, propanol, isopropanol or a mixture thereof as a solvent at room temperature for a duration of 1 to 4 h.

The compound of formula (IIIc) is converted to a compound of formula (IIId) (iii)

in the presence of C(Hal)4, where 'Hal' represents halogen atom in the presence of PPh3 and a solvent selected from dichloromethane, tetrahydrofuran, chloroform, dimethylether, diethylether, dioxane, benzene, toluene or a mixture thereof at room temperature for a duration of 0.5 to 2 h.

The compound of formula (IIId) is reacted with the compound of formula (IIIe) (iv)

where all the symbols are as defined above in this claim in the description of compound of formula (I), to obtain a compound of formula (IIIf)

TBDMSO
$$A^{r}$$
 $\downarrow p$ R^{5} R^{6} YR^{7}

where all the symbols are as defined above in this claim in the description of compound of formula (I). The reaction is carried out in the presence of a base selected from NaH, KH, sodium amide or potassium tertiary butoxide in the presence of a selected from DMSO, THF, toluene, benzene or a mixture thereof at a temperature range of 50 to 90 °C, for a period of 8 to 15 h.

The deprotection of compound of formula (IIIf) to obtain a compound of formula (v) (IIIg)

HO
$$Ar \leftrightarrow_{p} Z \xrightarrow{Q} YR^{7}$$

(Illg)

where all the symbols are as defined above in this claim in the description of compound of formula (I), is carried out by using tetrabutylammoniumfluoride (TBAF) in the presence of a solvent selected from water, THF, dioxane, dichloromethane, chloroform, methanol, ethanol or a mixture thereof at a temperature range of 20 to 40 °C and duration of 1 to 6 h.

(vi) The compound of formula (IIIg) is reacted with the compound of formula (IIIh)

where all the symbols are as defined above in this claim in the description of compound of formula (I), to obtain a compound of formula (I), where Y represents O or S, R⁷ represents all groups as defined above in this claim in the description of compound of formula (I) except hydrogen. The reaction is carried out by using PPh₃, diisopropyl azadicarboxylate (DIAD), or diethyl azadicarboxylate (DEAD) in the presence of a solvent selected from tetrahydrofuran, toluene, benzene or a mixture thereof at a temperature range of 20 to 40 °C and duration of 40 to 80 h.

- (vii) The compound of general formula (I) where R⁷ represents hydrogen atom, Y represents O or S, p represents 1 and all other symbols are as defined above in this claim in the description of compound of formula (I), is obtained from compound of formula (I) where R⁷ is as defined above in this claim in the description of compound of formula (I) except hydrogen, Y represents O or S, p represents 1 and all other symbols are as defined above in this claim in the description of compound of formula (I), by hydrolysis using conventional methods. The reaction is carried out in the presence of a base selected from sodium hydroxide, potassium hydroxide, lithium hydroxide, potassium carbonate or sodium carbonate in the presence of a solvent alcohol like methanol, ethanol, propanol, isopropanol or a mixture thereof, water, tetrahydrofuran, dioxane, ether or a mixture thereof at a temperature range of 30 to 80 °C and duration of 2 to 24 h.
- 38. A process for the preparation of resolution of compound of formula (I),

wherein R¹ and R² may be same or different and independently represent hydrogen, halogen, nitro, cyano, amino, hydroxy or optionally substituted group selected from alkyl, cycloalkyl, alkoxy, cycloalkoxy, aryl, aralkyl, alkylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heteroarylcarbonyl, aryloxy, aralkoxy, alkylcarbonylamino, alkoxycarbonylamino, aryloxycarbonylamino, heteroarylcarbonylamino, heteroaryl, heteroaralkyl, heterocyclyl, heteroaralkoxy,

heteroaryloxy, fluorenylmethoxycarbonyl (Fmoc), fluorenylmethoxycarbonylamino (N-Fmoc), -OSO₂R⁸, -OCONR⁸R⁹, NR⁸COOR⁹, -NR⁸COR⁹, -NR⁸R⁹, -NR⁸SO₂R⁹, -NR⁸CONR⁹R¹⁰, -NR⁸CSNR⁸R⁹, -SO₂R⁸, -SO₂R⁸, -SO₂NR⁸R⁹, -SO₂OR⁸, -CONR⁸R⁹, -COOR⁹ or -COR⁹, wherein R⁸, R⁹ and R¹⁰ may be same or different and independently represent hydrogen, optionally substituted group selected from alkyl, aryl, aralkyl, aryloxy or heteroaryl; or R¹ and R² together represent a monocyclic or polycyclic aromatic or non aromatic ring or an aromatic ring fused to a non aromatic ring, which may optionally contain 1 to 3 heteroatoms selected from N, S, or O and may be unsubstituted or have up to 1 to 4 substituents which may be identical or different.

R³ and R⁴ may be same or different and independently represent hydrogen, halogen, optionally substituted group selected from alkyl, cycloalkyl, alkanoyl, aryl, aroyl, aralkyl or aralkanoyl group. 'n' and 'p' independently represents 0-6.

X represents O, S, NR where R represents hydrogen or optionally substituted groupsselected from alkyl, cycloalkyl, cycloalkyl, aryl, aralkyl, alkanoyl, or aroyl.

Ar represents optionally substituted single or fused aromatic, heteroaromatic or heterocyclic group.

Z represents O, S, NR where R is as defined above.

R⁵, R⁶ and R⁷ may be same or different and independently represent hydrogen, hydroxy, halogen or optionally substituted group selected from alkyl, cycloalkyl, alkoxy, aryl, aralkyl, heteroaryl, heterocyclyl or heteroaralkyl groups. R⁵ and R⁶ together may form a 5 or 6 membered cyclic rings, which may contain one or two hetero atoms selected from O, S or N.

Y represents O or NR¹¹ where R¹¹ represents hydrogen, optionally substituted group selected from alkyl, aryl, aralkyl, alkanoyl, aroll, aralkanoyl, heterocyclyl or heteroaryl.

R⁷ and R¹¹ together may also form a 5 or 6 membered cyclic ring, which may contain one or two hetero atoms selected from O, S or N.

'----' represents a bond or no bond.

When the fused rings formed by R^1 and R^2 are substituted, the substituents are selected from (C_1-C_{10}) alkyl, halogen, hydroxy, halo (C_1-C_{10}) alkyl, nitro, amino, cyano, oxo, or thioxo.

When the groups represented by R¹ and R² are substituted, the substituents are selected from halogen, hydroxy, nitro, amino, oxo, thioxo, optionally substituted groups selected from alkyl, cycloalkyl, alkoxy, aryl, aralkyl, alkylsulfonyl, alkylsulfonyl,

alkylsulfonyloxy, alkylsulfinyloxy or alkylsulfanyloxy, the substituents are selected from halogen, hydroxyl, nitro, amino, cyano or alkyl.

When the groups represented by R, R³, R⁴, R⁷ and R¹¹ are substituted, the substituents are selected from halogen, nitro, amino, hydroxy, alkyl, oxo or aralkyl

When the groups represented by R⁵, R⁶ and R⁷ are substituted, the substitutents are selected from halogen, hydroxy, nitro, alkyl, cycloalkyl, alkoxy, aryl, aralkyl, aralkoxyalkyl, heterocyclyl, heterocyclyl, heterocyclyl, remains

When the cyclic rings formed by R⁵ and R⁶ are substituted, the substituents are selected from alkyl, halogen, hydroxy, haloalkyl, nitro, amino, cyano, oxo, or thioxo.

The groups defined for R, R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰ and R¹¹ may be unsubstituted, or have 1 to 4 substituents, which may be identical or different, to obtain substantially pure compounds of formula (Ii) and (Iii)

$$\begin{array}{c}
R^{1} \\
\downarrow \\
R^{2}
\end{array}$$

$$\begin{array}{c}
R^{4} \\
\uparrow \\
R^{3}
\end{array}$$

$$\begin{array}{c}
X - Ar \\
\downarrow \\
P
\end{array}$$

$$\begin{array}{c}
Z \\
\downarrow \\
R^{5}
\end{array}$$

$$\begin{array}{c}
R^{6} \\
\uparrow \\
R^{7}
\end{array}$$
(Ii)

where all symbols are as defined above,

by using chiral base selected from $S(+)-\alpha$ -methylbenzylamine, $R(-)-\alpha$ -methylbenzylamine, S(+)-lysine, R(-)-lysine, S(+)-N-methyl-D-glucamine, R(-)-N-methyl-D-glucamine, R(-)-brucine, cinchona alkaloids and their derivatives

- 39. The process as claimed in claim 38, wherein the chiral base is selected from S(+)-phenolgycenol, R(-)-phenolgycenol.
- 40. A pharmaceutical composition, which comprises a compound of formula (I)

as defined in claim 1 and a pharmaceutically acceptable carrier, diluent, excipient or solvate.

41. The pharmaceutical composistion of claim 40, wherein the compound is

42. The pharmaceutical composistion of claim 40, wherein the compound is

43. The pharmaceutical composistion of claim 40, wherein the compound is

44. The pharmaceutical composistion of claim 40, wherein the compound is

45. The pharmaceutical composistion of claim 40, wherein the compound is

The pharmaceutical composistion of claim 40, wherein the compound is

47. The pharmaceutical composistion of claim 40, wherein the compound is

48. The pharmaceutical composistion of claim 40, wherein the compound is

49. The pharmaceutical composistion of claim 40, wherein the compound is

50. The pharmaceutical composistion of claim 40, wherein the compound is

51. The pharmaceutical composistion of claim 40, wherein the compound is

52. The pharmaceutical composistion of claim 40, wherein the compound is

53. The pharmaceutical composition as claimed in claim 40 in the form of a tablet, capsule, powder, syrup, solution or suspension.

54. A method for treating and/or preventing dyslipidemia comprising administering a compound of formula (I) as defined in claim 1 or a pharmaceutical composition according to claim 40 to a patient in need thereof.

- 55. A method for treating and/or preventing diabetes caused by insulin resistance or impaired glucose tolerance comprising administering a compound of formula (I) as defined in claim 1 or a pharmaceutical composition according to claim 40 to a patient in need thereof.
- 56. Use of a compound of formula (I) as defined in claim 1 or a pharmaceutical composition according to claim 40 for treating and/or preventing dyslipidemia.
- 57. Use of a compound of formula (I) as defined in claim 1 or a pharmaceutical composition according to claim 40 for treating and/or preventing diabetes caused by insulin resistance or impaired glucose tolerance.
- 58. A medicine for treating and/or preventing diabetes caused dyslipidemia comprising administering a compound of formula (I) as defined in claim 1 or a pharmaceutical composition according to claim 40 to a patient in need thereof
- 59. A medicine for treating and/or preventing diabetes caused by insulin resistance or impaired glucose tolerance comprising administering a compound of formula (I) as defined in claim 1 or a pharmaceutical composition according to claim 40 to a patient in need thereof.